



Time to Deliver on the Data Promise

The Research Data Alliance

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Increases in the ability to make predictions and more informed decisions on the basis of Big Data will have implications far beyond science and engineering. They have the potential to improve healthcare, increase economic productivity, personalize education, strengthen our national security, and improve the management of America's infrastructure, including transportation and the electric grid.

Tom Kalil
Deputy Director for Policy
White House Office of Science and Technology Policy



Data is a 21st century commodity: it's the new oil. There's almost no limit to the economic and social wonders it can generate.

Neelie Kroes
Vice President of the European Commission



NASA Landsat satellite imagery became freely available over the Internet in 2008. The availability of this data is estimated to have created value for the environmental management industry of \$935 million per year.

Parcher, J., 2012

www.oosa.unvienna.org/pdf/pres/stsc2012/2012ind-05E.pdf



Five Years Ago:

... access to research data increases the returns from public investment in this area; reinforces open scientific inquiry; encourages diversity of studies and opinion; promotes new areas of work and enables the exploration of topics not envisioned by the initial investigators.

OECD Principles and Guidelines for Access to Research
Data from Public Funding, 2007



Fifteen Years Ago:

*Full and open exchange of scientific data—the “**bits of power**” on which the health of the scientific enterprise depends—is vital for advancing the nation’s progress and for maximizing the social benefits that accrue from science worldwide.*

Bits of Power: Issues in Global Access to Scientific Data
US National Research Council, 1997
<http://books.nap.edu/catalog/5504.html>



Forty One Years Ago:

The fundamental pillar on which science rests is the accessibility of information, observations, and data.

TD Sterling, Science 173, 676 (1971)



Three Hundred Forty Nine Years Ago:

Nullius in Verba
(Take nobody's word for it)

*Verify all statements by an appeal to facts determined by
experiment*

Motto of the Royal Society
Adopted 1663



The time is right:

- The open exchange of research data has inherent value
- 21st Century science is global and digital
- Adequate technical capabilities are available today
- A global infrastructure can be operated on the basis of voluntary cooperation and consensus



What's missing?

- Forum for reaching consensus and making decisions
- Basis for acting voluntarily on those decisions

Example of operating a global infrastructure on the basis of cooperation and consensus:

The Internet Society

and the

Internet Engineering Task Force (IETF)



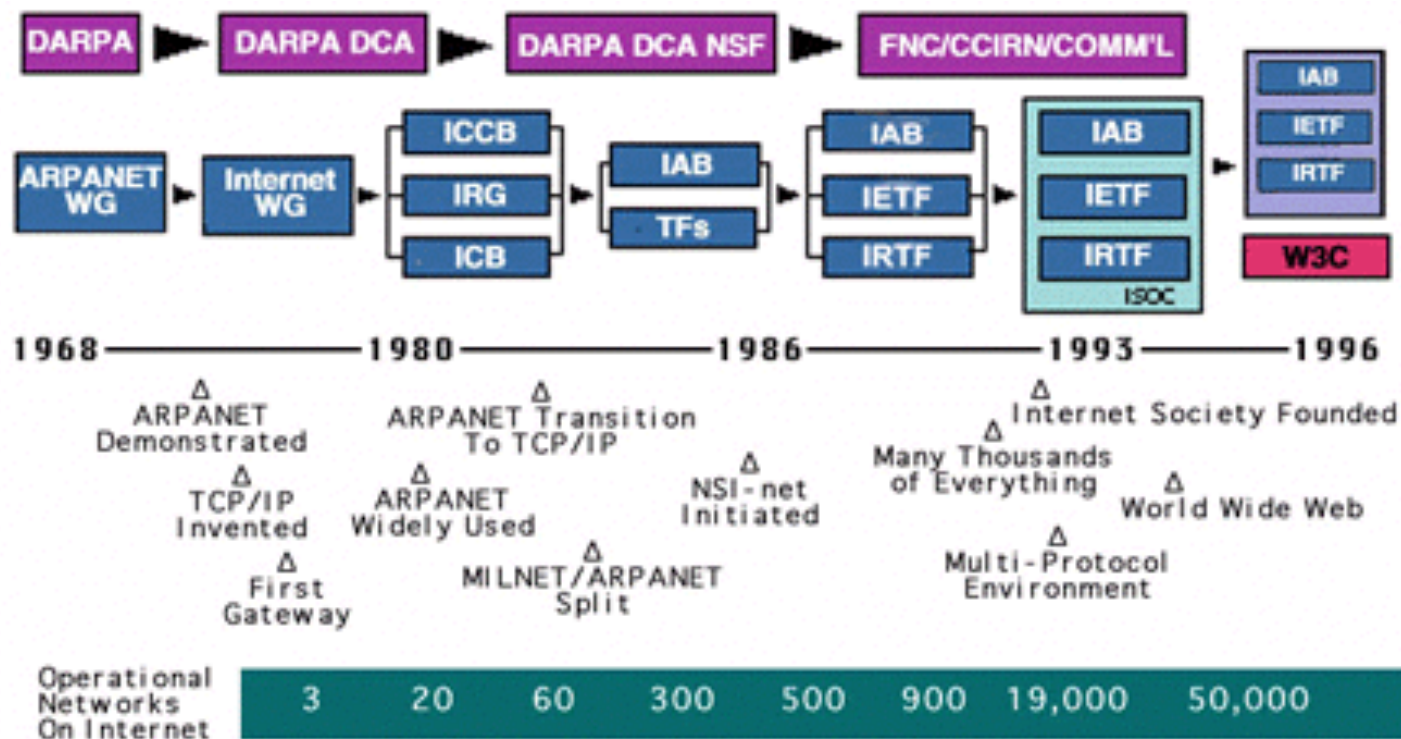
Internet Ground Rules (2 of 4)

- Each network operates its own way, no internal changes can be required to allow a network to connect to the Internet
- There is no global control at the operations level

Bob Kahn, 1972



Internet Governance History

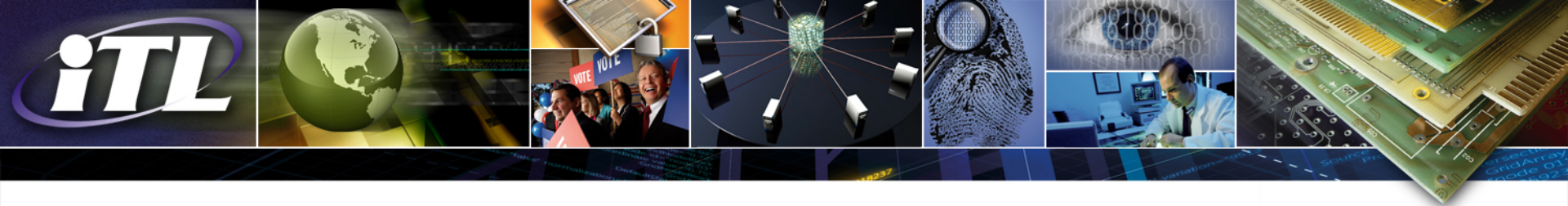


Source: The Internet Society, www.internetsociety.org



How Does IETF Operate?

- “Rough consensus and running code”
- Request for Comment (RFC) as primary deliverable
 - Best Current Practice (BCP)
 - For Your Information (FYI)
 - Standard (STD)
- Sources of RFCs
 - IETF
 - IRTF
 - IAB
 - Independent Submission



RFC Example

Internet Engineering Task Force (IETF)
Request for Comments: 6410
BCP: 9
Updates: 2026
Category: Best Current Practice
ISSN: 2070-1721

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Reducing the Standards Track to Two Maturity Levels

Abstract

This document updates the Internet Engineering Task Force (IETF) Standards Process defined in RFC 2026. Primarily, it reduces the Standards Process from three Standards Track maturity levels to two.

Status of This Memo

This memo documents an Internet Best Current Practice.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on BCPS is available in Section 2 of RFC 5741.



IETF 81 – July 2011, Quebec Canada

- 1,057 participants from 46 countries
- 121 Working Groups
- 553 new Internet drafts
- 100 RFCs approved for subsequent publication
- 149 RFCs published since last meeting



Internet Ecosystem - Stakeholders

Internet Society Vision: The Internet is for everyone

- Technologists, designers, architects, and standards developers
- Operators, engineers, and vendors
- Global and local organizations
- Users
- Educators
- Policy and decision makers



A Global Alliance for Research Data Exchange



Vision:

Research data exchange for everyone

Mission:

Use voluntary cooperation and consensus to run an open, global research data infrastructure



Scope:

Data that are appropriate for use or re-purposing for research and educational applications when used under conditions of proper protection and authorization and in accordance with all applicable legal and regulatory requirements



Characteristics of a global research data alliance

Part 1 of 2

- **Community-based** – Not a government organization, commercial entity or regulatory body
- **Open** – Membership is open, meetings are public, processes are transparent, and products are free
- **Balanced** – Organized on the principle of balanced representation for individual organizations and stakeholder communities



Characteristics of a global research data alliance

Part 2 of 2

- **Consensus-driven** – Progress through rough consensus, voting to resolve disagreements as required
- **Harmonization-oriented** – Focused on harmonization and early deployment across standards, policies, technologies, tools, and other data infrastructure elements
- **Non-profit** - Does not design, promote, endorse, or sell commercial products or services



THE TIME TO ACT IS NOW

WE ARE THE ALLIANCE WE'VE BEEN WAITING FOR!

THANK YOU

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